REMARKS

Claims 1-5, 7-13, 16-18 and 23-28 are pending.

The Examiner rejected claims 1-5, 7-11, 16-18 and 23 under 35 U.S.C. §103(a) as being unpatentable over Thomson in view of Fujikami.

Claims 1-5, 7-11, 16-18 and 23 cover superconducting articles that include a ceramic superconductor and a sealing structure that includes a cured polymer and is configured to prevent fluid at a pressure of about one atmosphere from infiltrating into the ceramic superconductor through the outer surface of the ceramic superconductor.

The Examiner asserted that:[1]

> Thomson discloses, referring to figure 3, a superconducting article (18) sealed by a cured polymer (102) which forms a seal to prevent the intrusion of cryogenic material (76) into the superconductor. (Office Action at 3).

However, nowhere does Thomson disclose that layer 102 includes a cured polymer. Rather, Thomson simply discloses that layer 102 is a "protective insulating layer." (Thomson col. 3, lines 49-50). Thus, Thomson does not explicitly disclose that layer 102 includes a cured polymer.

Nor can it be fairly stated that Thomson inherently disclose that layer 102 includes a cured polymer. As known to those skilled in the art, there are many different types of materials that could be used as a "protective insulating layer" in Thomson's device, but there is no indication that, out of the many different types of materials that could be used, a material including a cured polymer would have been used. Applicant reminds the Examiner that the standard for meeting inherent anticipation is demanding. As the United States Court of Appeals

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[1] The Examiner appears to equate Thomson's layer 102 with Applicants' claimed cured polymer, Thomson's coaxial 18 with Applicants' claimed ceramic superconductor, and Thomson's fluid 76 with the cryogenic fluid recited in the claims. Applicants do not concede that this comparison of Thomson and the claims is correct or proper. Nonetheless, as explained herein, even if such a comparison were correct and proper, the subject matter covered by the claims would still be patentable over the combination of Thomson and Fujikami.

for the Federal Circuit ruled in Electro Sys. S.A. v. Cooper Life Sciences, 34 F.3d 1048, 1052 (Fed. Cir. 1994):

> The mere fact that a thing *may result* from a given set of circumstances is insufficient to prove anticipation. (citations omitted; emphasis original).

Rather, one asserting inherent anticipation must prove that the claimed features are:

> necessarily present [in the prior art reference] and that it would be so recognized by persons of ordinary skill. (Id.).

Here, the Examiner has not met the requisite standard.

Moreover, Thomson does not disclose that layer 102 is configured to prevent fluid at a pressure of about one atmosphere from infiltrating into a ceramic superconductor through the outer surface of the ceramic superconductor, as required by claims 1-5, 7-11, 16-28 and 23. It is true that layer 102 is surrounded by a liquid 76 for producing cryogenic temperatures (id. col. 1, line 72-col. 2, line 1), but Thomson does not explicitly disclose that layer 102 is configured to prevent fluid at a pressure of about one atmosphere from infiltrating into a ceramic superconductor through the outer surface of the ceramic superconductor, as required by claims 1-5, 7-11, 16-28 and 23.

Further, it cannot be fairly stated that Thomson somehow inherently discloses that layer 102 is so configured. First, Thomson makes no mention of the problem of fluid infiltration into a ceramic superconductor through the outer surface of the ceramic superconductor, and so, bearing in mind that Thomson does not disclose the particular material from which layer 102 is formed, there is no indication that Thomson would have used a material that was configured to prevent fluid at a pressure of about one atmosphere from infiltrating into a ceramic superconductor through the outer surface of the ceramic superconductor. In addition, there are additional layers between liquid 76 and conductor 48, and so it would appear just as likely that, if Thomson had been concerned about fluid infiltration into a ceramic superconductor through the outer surface of the ceramic superconductor, one or more of these additional layers could have been formed of a material that was configured to prevent fluid at a pressure of about one atmosphere from

infiltrating into a ceramic superconductor through the outer surface of the ceramic superconductor.

Fujikami does not cure Thomson's infirmities. In particular, Fujikami does not disclose or suggest a ceramic superconductor and a sealing structure that includes a cured polymer and is configured to prevent fluid at a pressure of about one atmosphere from infiltrating into the ceramic superconductor through the outer surface of the ceramic superconductor.

Neither Thomson nor Fujikami, alone or in combination, discloses or suggests the articles covered by the claims. There is no suggestion to combine these references to provide such articles. Moreover, even if Thomson and Fujikami were combined, the result would not be the articles covered by the claims. Rather, the result would be an article that did not include a ceramic superconductor and a sealing structure that includes a cured polymer and is configured to prevent fluid at a pressure of about one atmosphere from infiltrating into the ceramic superconductor through the outer surface of the ceramic superconductor.

In view of the foregoing, Applicants request reconsideration and withdrawal of the rejection of claims 1-5, 7-11, 16-18 and 23 under 35 U.S.C. §103(a).

The Examiner also rejected claims 12, 13 and 24-28 under 35 U.S.C. §103(a) as being unpatentable over Thomson in view of Fujikami.

Claims 12, 13 and 24-28 cover an article that has a sealing structure that includes a cured polymer and is applied to the outer surface of a ceramic superconductor.

Applicants do not see where in the Office Action the Examiner asserted that Thomson or Fujikami discloses a sealing structure that includes a cured polymer and is applied to the outer surface of a ceramic superconductor. Applicants note that layer 102 in Thomson is not applied along the outer surface of a ceramic superconductor. Applicants further note that Fujikami does not disclose or suggest such a structure.

Neither Thomson nor Fujikami, alone or in combination, discloses or suggests the articles covered by claims 12, 13 and 24-28. There is no suggestion to combine these references to provide such articles. Moreover, even if Thomson and Fujikami were combined, the result would not be the articles covered by these claims. Rather, the result would be an article that did not include a ceramic superconductor and a sealing structure includes a cured polymer and is applied to the outer surface of a ceramic superconductor.

In view of the foregoing, Applicants request reconsideration and withdrawal of the rejection of claims 12, 13 and 24-28 under 35 U.S.C. §103(a).